Remarks

Claims 1-12 are pending in the application. Claims 1-12 are rejected. All rejections are respectfully traversed.

This is a *third* request for reconsideration.

2. Claims 1, 3-6, and 9-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Choi et al. (US 7,274,707).

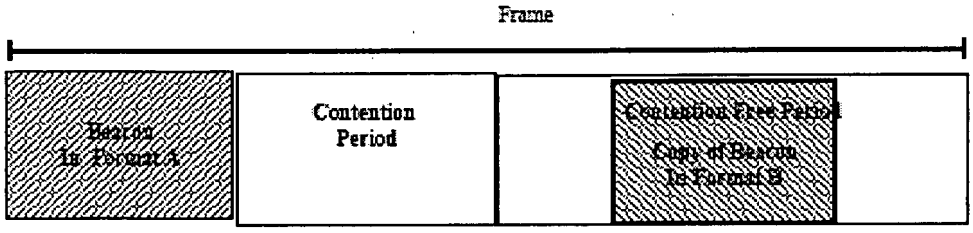
Claimed is broadcasting periodically a first beacon in a first signal format, the first beacon defining a start of a contention period and a start of a contention free period, the contention free period for communicating data between the terminals; and broadcasting a second beacon in a second signal format during the contention free period, the second beacon defining the start of the contention period and the start of the contention free period.

In other words, the invention broadcasts ***two*** *beacons in each frame*. The first beacon is in the first signal format, and the second beacon is in the second signal format. Moreover, the second beacon is broadcast during the *contention free period* (CFP).

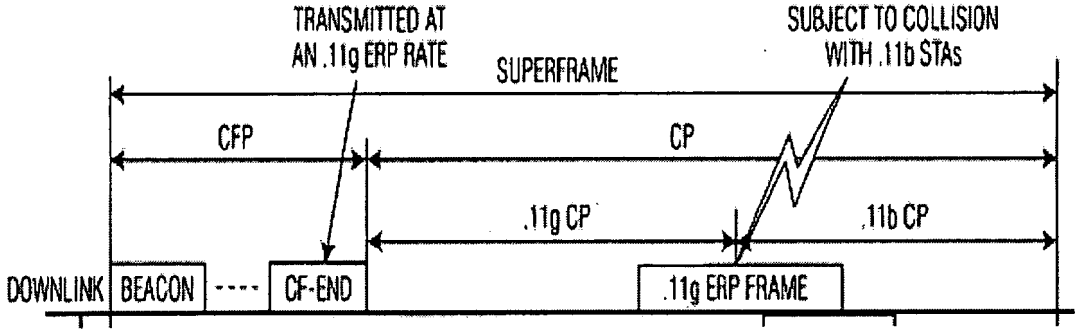
Simply said, the second beacon is broadcast in a different signal format in the CFP defined by the first beacon.

To assist in an understanding of this rather simple invention, the following figure is supplied. The Figure is a slight modification of Figure 3 in the present Application.

Please note, **Beacon A** at the start of the frame, and **Beacon B** during the contention free period, which is defined by the first beacon. Furthermore, the two beacons use two different signal formats, as indicted by the cross-hatching.



In complete contrast, there is only **ONE** beacon in Choi, see Figure 2.



"A beacon signal having a contention-free-period (CFP) is transmitted from an access point to the plurality of stations," see Abstract. Also see summary: "transmitting a beacon signal having a contention-free period (CFP) followed by a contention period (CP) to the plurality of the stations," and column 1:

a previous contention-period CP using the distributed coordination-function procedures. Upon gaining access to the wireless medium, the access-point AP transmits a beacon-frame BF 300 to the stations STA1-STA6, thus initiating a contention-free-period CFP. The contention-free-period CFP

and claim 7:

transmitting a beacon signal having a contention-free period (CFP) followed by a contention period (CP) to said plurality of stations;

determining whether a transmission of OFDM-modulated data is possible before the CFP expires;

if so, transmitting the OFDM-modulated data to the plurality of said stations; and

transmitting DSSS/CCK-modulated data during the contention period (CP).

Neither the Figures nor the Description in Choi would lead one of ordinary skill in the art to assume that there are two beacons with two signal formats in a (super)frame.

With all due respect, the Examiner has again completely misinterpreted the reference. In Choi, the two modulation schemes (OFDM and DSSS/CCK), refer to the **data** transmitted during the contention period and the contention free period, and **not** to the actual beacons themselves.

of the stations; and, transmitting DSSS/CCK-modulated data during the contention period (CP). The method further includes the steps of: transmitting a request-to-send (RTS) frame comprising information representative of OFDM-modulation capability if the transmission of the OFDM-modulated data is not possible before the CFP expires; and.

Applicants assert now, as in the past, and as they will in the future, the claimed invention of broadcasting **two** beacons in two different signal format is completely novel. It should also be noted that the CP and the CFP in the present invention are in reverse order to what is described by Choi.

Choi does not describe what the signal format for his one and only beacon is.

With respect to claim 10, the Examiner is directed to the above that makes it abundant clear that Choi only has one beacon.

With respect to claim 3, claimed is broadcasting a plurality of second beacons in a plurality of different signal formats during the contention free period.

The Examiner states:

> Referring to Claim 3, Choi also teaches broadcasting a plurality of second beacons in a plurality of different signal formats during the contention free period (see col. 4, lines 4-12 noting the sub parts).

With all due respect, this completely wrong. What is described is:

> As shown in FIG. **2**, the contention-free-period CFP consists of a first sub-part, a CCK/OFDM contention-free period **310**; a second sub-part, an OFDM contention period **330**; and, a third sub-part, a CCK contention period **340**. During the contention-free period CFP **310**, the access-point AP has control of the medium and delivers traffic to stations STA1-STA6 and may poll stations STA1-STA6 that have requested content-free service for them to deliver traffic to the access-point AP or to another station STA in the network.

There is absolutely nothing about beacons in this paragraph. Note the sub-parts are the OFDM and the CCK sub-parts for data, and **not** for beacons.

With respect to claim 4, claimed is that the first signal format is predetermined. There is nothing at column 2 or anywhere in Choi that predetermines a signal format for beacons.

With respect to claim 5, claimed is that the first signal format is based on a priority of terminals in the heterogeneous network.

The Examiner states:

Referring to Claim 5, Choi also teaches the first signal format based on a priority of terminals in the heterogeneous network (see col. 3, lines 36-49).

With all due respect, this is again completely wrong. The Examiner has misinterpreted Choi:

> According to an embodiment of the present invention, the system **100** comprises a first group of stations STA1-STA3 capable of transmitting and receiving DSSS/CCK-modulated data (or 802.11b-compliant data) and a second group of stations STA4-STA6 capable of transmitting and receiving OFDM-modulated data (or 802.11g compliant data). As such, when the access-point AP desires to communicate with one of the stations STA1-STA3, the access-point AP transmits DSSS/CCK-modulated frames. However, when the access-point AP communicates with one of the stations STA4-STA6, the access-point AP uses the OFDM modulation if the access-point AP is aware, at the time of transmission, that the intended receiving stations STA4-STA6 are OFDM-capable.

There is nothing about *priority* of terminals or *signal formats* or *beacons* in this paragraph.

With respect to claim 6, claimed is that the first signal format is based on a bandwidth of terminals in the heterogeneous network.

The Examiner states:

Referring to Claim 6, Choi also teaches the first signal format based on a bandwidth of terminals in the heterogeneous network (see col. 4, line 64 to col. 5, line 3).

There is nothing in the cited paragraph that describes signal formats of beacons based on bandwidth of terminals.

With respect to claim 9, there is nothing at column 1 that describes terminals of a heterogeneous network, see:

The IEEE 802.11 WLAN standard provides a number of physical-layer options in terms of data rates, modulation types, and spread of spectrum technologies. In particular, the IEEE 802.11b standard defines a set of specifications of physical layers operating in the 2.4 GHz ISM frequency band up to 11mps. The direct-sequence-spread spectrum/ complementary-code keying (DSSS/CCK) physical layer is one of the three physical layers supported in the IEEE 802.11 standard and uses the 2.4 GHz frequency band as the RF-transmission media. The 802.11g standard, which is

With respect to claim 11, claimed is a coordinator that can communicate with any terminal in the network in any predetermined signal format. There is nothing about coordinators communicating with anything at col.2 lines 32-34.

possible before the CFP expire, the first station transmits request-to-send and clear-to-send frames modulated according to the second modulation scheme. The first modulation scheme is an OFDM modulation scheme, and the second modulation scheme is a DSSS/CCK modulation scheme.

With respect to claim 12, claimed is that the first and second terminal communicate indirectly with each other via the coordinator terminals.

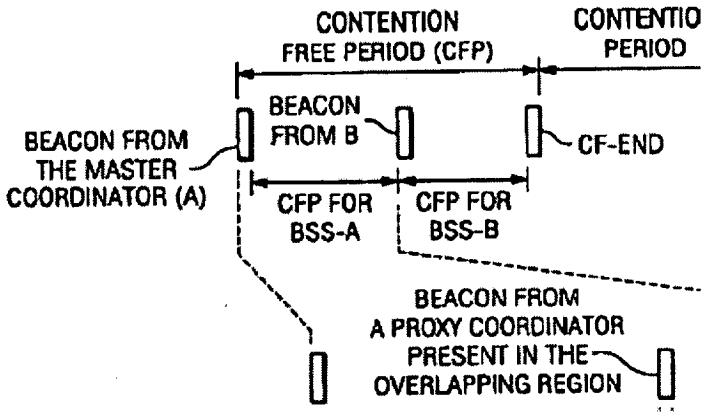
There is nothing about these limitations at column 2:

According to another aspect of the invention, a method for providing a communication between an access point and a plurality of stations having at least one first station and at least one second station in a wireless-local-area network (WLAN) is provided. The method includes the steps of: transmitting a beacon signal having a contention-free period (CFP) followed by a contention period (CP) to the plurality of the stations; determining whether a transmission of OFDM-modulated data is possible before the CFP expires; if so, transmitting the OFDM-modulated data to the plurality of the stations; and, transmitting DSSS/CCK-modulated data during the contention period (CP). The method further includes the steps of: transmitting a request-to-send (RTS) frame comprising information representative of OFDM-modulation capability if the transmission of the OFDM-modulated data is not possible before the CFP expires; and, transmitting the OFDM-modulated data if a clear-to-send frame (CTS) from the at least first station indicating an acceptance of the OFDM modulation is received.

4. Claims 2, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi in view of Gubbi et al. (US 6,754,176).

With respect to claim 2 claimed is that the contention free period includes assigned and unassigned slots, and in which the second beacon is broadcast during time periods of unassigned slots.

In Gubbi, there is also only one beacon per frame. With all due respect, the Examiner has confused the beacons from the different base stations in overlapping different cells, see Figure 4. Off course if one looks at a large network, the beacons from the different cells will commingle on the airwaves. However, this is not what is claimed.



The description makes it clear that the CFPs for the various beacons form the different coordinators are *segregated*, and not the same as claimed.

"FIG. 4 illustrates this segregation of CFPs. Notice that within the CFP for BSS-A (which originates after the beacon from the MC-A), a CFP for communication from/to multimedia (MM) devices in the non-overlapping region is provided. This is followed by a beacon from a proxy coordinator (e.g., a network node that acts to pass messages between a PC and a client which cannot receive transmissions directly from the PC) and a similar CFP for communications from/to MM devices in the overlapping region of A. Similar CFPs may exist for all PCs, followed by a contention period, and so on."

With respect to claim 7, claimed is that the slots are assigned according to a bandwidth of terminals in the heterogeneous network. This is not described at column 2:

wirelessly to the other nodes of subnet 10. The wireless link generally supports both high and low bandwidth data channels and a command channel. Here a channel is defined as the combination of a transmission frequency (more properly a transmission frequency band) and a pseudo-random (PN) code used in a spread spectrum communication scheme. In general, a number of available frequencies and PN codes

With respect to claim 8, claimed is that the slots are assigned according to a priority of terminals in the heterogeneous network.

Column 7 describes the opposite:

When a PC is polling for an asynchronous data stream and a multimedia data stream, like audio/video, there are no defined ways for a station streaming multimedia to get priority in channel usage. This can cause problems such as dropped video frames or audio clicks simply because of competition for bandwidth. Nor is there any defined mechanism for a station with larger data rate to get priority over a station with a smaller data rate when both the data streams are of equal importance. A good example of this in the home

First, there are no assignments of slots based on priority. Applicants again remind the Examiner, as in the first and second Request for Reconsideration, that MPEP 2131 explicitly states that in order to anticipate a claim under 35 U.S.C. 102(e) "**each and every element as set forth in the claims** must be found in the prior art reference. The identical invention must be shown in as complete detail as is contained in the ... claim."

The Examiner's rejections ignore the explicit limitations as recited the claims.

With all due respect to the Examiner, Applicants believe that this particular Office Action is again totally inadequate. For each rejection, the Examiner merely recites the claimed limitations, and then cites some random bit of the prior art that may or may not include a word of the claim. No effort is made to tie the reference to the specifics of what is claimed. There is no analysis,

just the claim language, and a pointer to some random section of the reference with no attempt to connect what is described in the prior art with what is claimed. The prior art is consistently misconstrued. These types of office actions fail to bring the application forward in prosecution.

It is believed that this application is now in condition for allowance. A notice to this effect is respectfully requested. Should further questions arise concerning this application, the Examiner is invited to call Applicants' attorney at the number listed below. Please charge any shortage in fees due in connection with the filing of this paper to Deposit Account 50-0749.

Respectfully submitted,
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